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## The Early Field Systems of the Stonehenge Landscape

Roberts, D., Last, J., Linford, N., Bedford, J., Bishop, B., Dobie, J., Dunbar, E., Forward, A., Linford, P., Marshall, P., Mays, S., Payne, A., Pelling, R., Reimer, P., Russell, M., Soutar, S., Valdez-Tullett, A., Vallender, J., & Worley, F. (2018). The Early Field Systems of the Stonehenge Landscape. *Landscapes (United Kingdom)*, 18(2), 120-140. <https://doi.org/10.1080/14662035.2018.1429719>

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## The Early Field Systems of the Stonehenge Landscape

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### ABSTRACT

Recent survey, excavation and analysis in the Stonehenge World Heritage Site (WHS) during 2015 and 2016 has revealed new details of landscape structuration and the deposition of the dead during the Middle Bronze Age. The research reported here demonstrates the existence of early fields or enclosures in the eastern part of the WHS, that was previously thought to be an area of little agricultural or domestic activity in the Bronze Age. These features were succeeded by a major ditch system in which two individuals were buried, an unusual way of dealing with the dead in the Middle Bronze Age. At the same time, the body of a perinatal infant was deposited in a palisade ditch in the western part of the WHS. The paper explores how these actions help elucidate a period of significant change in the landscape around Stonehenge, during which natural features, ancestral monuments and the recent dead were enmeshed in complex ways of bounding and dividing the landscape.


### KEYWORDS

Middle Bronze Age; field systems; Stonehenge; funerary practice; land division; geophysical survey; excavation

## Introduction

At some time between the fifteenth and late thirteenth century cal B.C., the bodies of two men were buried in a newly-dug ditch about 1 km south-east of the Neolithic monument of Stonehenge in Wiltshire, southern England (UK) (Figure 1). Around the same time, the remains of a perinate (i.e. a new-born infant or stillborn foetus) were interred during the infilling of another ditch, 2 km south-west of the stones. These ditches and burials are representative of a Middle Bronze Age (MBA) restructuring of the landscape around Stonehenge. This article explores that process with reference to these and other discoveries from a recent programme of survey and excavation. Supplemental data that makes available the full excavation and analysis datasets on which this article is primarily based can be accessed at <https://doi.org/10.1080/14662035.2018.1429719> and (for the osteoarchaeological analysis of the human remains in a separate forthcoming publication (Mays *et al* in review).

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 Supplemental data for this article can be accessed at <https://doi.org/10.1080/14662035.2018.1429719>

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**Figure 1.** Burial of adult male in the Middle Bronze Age in fields overlooking Stonehenge from the south-east. Interpretative reconstruction of burials in ‘Ditch A’, trench 5 on the West Amesbury Farm site, by Judith Dobie.

The ongoing importance of Stonehenge and its environs in the Early Bronze Age (EBA), marked by continuing structural modification at Stonehenge itself (Darvill 2016), is also strongly attested by the number of round barrows in the landscape and the richness of their burials (e.g. Darvill 2005, 61–5; Needham *et al.* 2010). Remarkably, over 1000 barrows are estimated to occupy the area between the Till and Avon rivers, nearly half of which are in the Stonehenge World Heritage Site (WHS) (Bowden *et al.* 2015, 55). Most of these can be dated to between about 2200 and 1700 cal B.C. (Periods 2–3 in Needham *et al.* 2010, Table 1), and many of them continued to receive secondary burials (usually cremations, with or without ceramic urns) through the latter part of the EBA and into the succeeding MBA (Darvill 2005, 69; Periods 4–5 in Needham *et al.* 2010, Table 1).

While the barrows around Stonehenge retained significance into the later second millennium B.C., the landscape around them changed greatly, in common with many areas of Britain, with the appearance of boundary ditches, field systems and enclosed settlements dividing and demarcating areas of land (Yates 2007). Amidst these major changes in people’s relationship with the land, however, elements of continuity can be detected. Pollard *et al.* (2017) have noted that EBA settlement evidence is sparse in areas to the east of Stonehenge (despite Late Neolithic activity being well attested there) but better represented on the western side of the WHS, and they suggest this pattern is repeated in the distribution of MBA field systems. They relate this contrast to a series of earthworks (also identified by Bowden *et al.* 2015, fig. 4.17) which enclosed a block of landscape including Stonehenge itself and Normanton Down’s significant barrow cemetery, and which are

**Table 1.** Radiocarbon dating and stable isotope results from West Amesbury Farm and Druid's Lodge.

Laboratory code	Sample ref	Material & context	$\delta^{13}\text{C}$ (‰)	$\delta^{15}\text{N}$ (‰)	C:N	Radiocarbon age (BP)	Calibrated date (2 $\sigma$ ) cal B.C.	Posterior Density Estimate, (95% probability) cal B.C.
West Amesbury Farm SUERC-66321	8102	Human bone, left femur, adult male from sub-rectangular grave [91591] cut into the base of a north-south orientated ditch [91517 = 91559]	$-20.5 \pm 0.2$	$9.2 \pm 0.3$	3.3	$3124 \pm 30$	1450–1300	1495–1475 (5%) or 1460–1370 (77%) or 1355–1310 (13%)
UBA-31357	8101	Human bone, left femur, adult male from sub-rectangular grave [91522] cut into the base of the same ditch and also cutting grave [91591]	$-20.5 \pm 0.22$	$9.3 \pm 0.15$	3.2	$3153 \pm 45$	1510–1300	1450–1285
SUERC-66322	(91514) – red deer – sample A	Red deer, metatarsal, right hand side from the uppermost fill of the same ditch	$-21.2 \pm 0.2$	$5.5 \pm 0.3$	3.3	$2140 \pm 27$		
UBA-31361	(91514) – red deer – sample B	Replicate of SUERC-66322	$-21.4 \pm 0.22$	$5.4 \pm 0.15$	3.2	$2017 \pm 38$		
	Red deer (91514)	Weighted mean ( $T' = 6.9$ ; $T'5\% = 3.8$ ; $v = 1$ )				$2099 \pm 23$	200–45	185–45
Druid's Lodge SUERC-66780	(92219) SF 52206	Human bone, four long bone fragments from a perinate from the lower fill of ditch [92202]	$-20.3 \pm 0.2$	$10.4 \pm 0.3$	3.2	$3102 \pm 31$	1440–1270	

suggested to originate at the end of the EBA or beginning of the MBA. This ‘enclosure of Stonehenge’, even if more symbolic than practical, defined ‘a zone of sacred space’ from which settlement was excluded, and apparently shifted westwards.

The adult inhumations mentioned above draw our attention to the allegedly empty side of this ‘sacred zone’, south-east of Stonehenge. Along with the stratigraphic sequences of which they form a part, the burials suggest that more was going on here in the MBA than has previously been recognised. They aid our understanding of the early field systems in the WHS and add detail and nuance to the established narrative of continuity and change in the Bronze Age landscape.

## The 2015 and 2016 fieldwork

The work reported here formed part of a project undertaken by Historic England (HE) in the southern part of the Stonehenge WHS, an area considered to be relatively poorly understood compared to other parts of the WHS. Fieldwork took place in 2015 and early 2016, focussed on a landscape transect south of the A303 (Figure 2). The project combined aerial interpretation and mapping, earthwork survey and geophysical survey, and targeted excavation at two sites. This combination of extensive survey and focussed excavation emphasises how a landscape approach always requires us to tack between different scales of analysis.

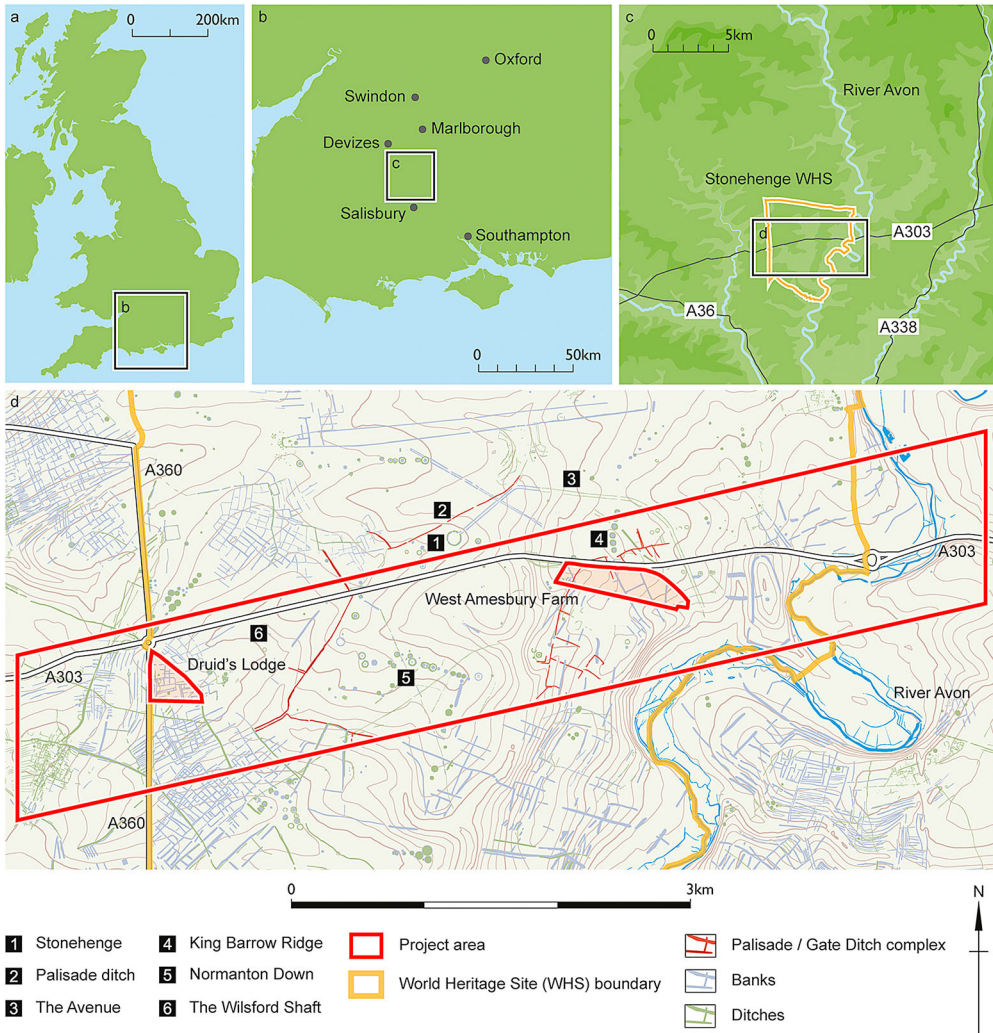
Aerial mapping to National Mapping Programme standards was undertaken for the Stonehenge WHS in 2001 so the recent work reviewed photography that was not available at that time (Barber and Small *in prep*). Within the southern WHS project area new discoveries were limited but include a small number of possible round barrows and ring-ditches. Geophysical survey, using caesium magnetometer and ground penetrating radar (GPR), explored a total of 130 ha across the project area (Linford *et al.* 2015a; 2015b; 2015c; 2015d), the results of which are discussed in detail below. Earthwork survey focussed on the Iron Age hillfort of Vespasian’s Camp (Bowden 2016), which is beyond the chronological scope of this article. The two excavations were located on land belonging to West Amesbury Farm and Druid’s Lodge Estate.

## West Amesbury farm

The excavations at West Amesbury Farm lay south of the A303 road and King Barrow Ridge (Figure 3). From a relatively level hilltop at the road, the field slopes down to the south and south-east with a slight dry valley separating it from fields further south which contain Coneybury Henge (Richards 1990, 123–58). To the south-west, a second, steep-sided dry valley leads towards Luxenborough Plantation. The geophysics added considerable detail to the features mapped from aerial photographs and revealed previously unknown ditches, pits and tree throws across the field, alongside geomorphological features (Linford *et al.* 2015c). Four trenches were placed to investigate linear features known from existing aerial survey data and new geophysical survey (Linford *et al.* 2015c).

Trench 5 targeted a ditch (91559; A on Figures 3 and 4) extending across the western part of the field on a NNE–SSW alignment. Aerial mapping suggests this feature has a length of some 280 m and forms part of a larger system that is further discussed below. It had previously been investigated by Wessex Archaeology in two locations further north (Darvill 1995, 46–7), where it was 1.4–1.6 m in width and 0.6 m deep, with two

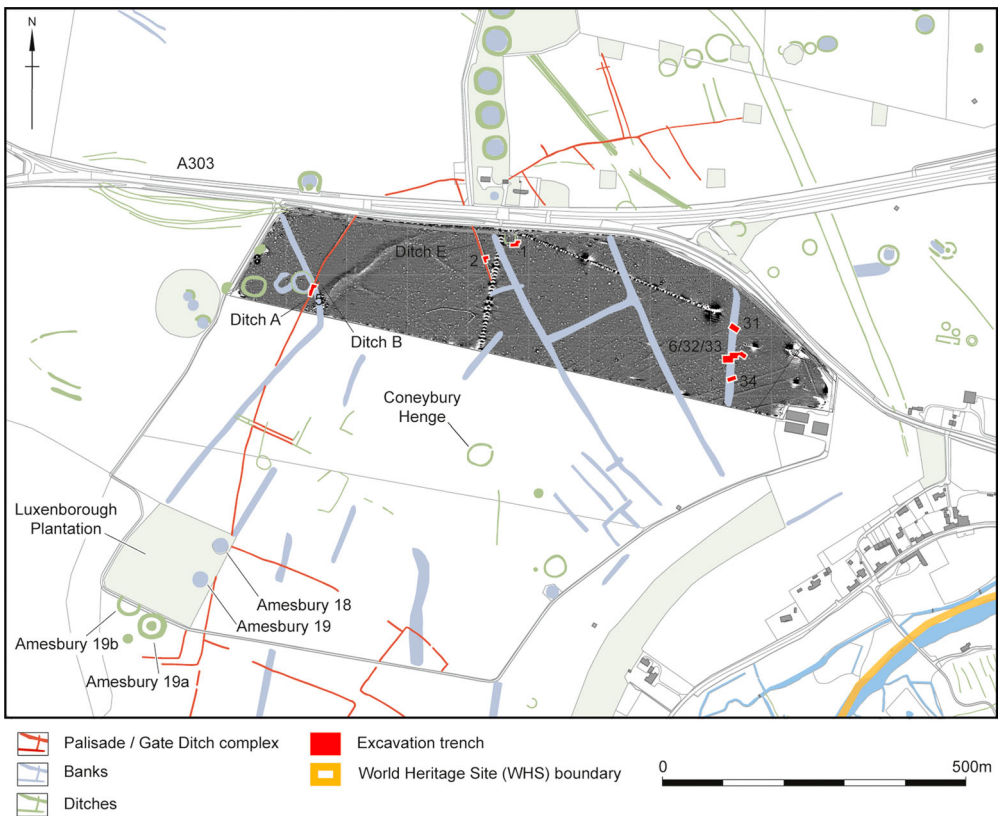




**Figure 2.** Location and map of the project area, with archaeological features from aerial survey, the key locations mentioned in the text, and showing the two survey and excavation areas at West Amesbury Farm and Druid's Lodge.

fills containing worked and burnt flint. Geophysical survey indicated a 'kink' in the line of the ditch adjacent to another, shorter ditch (91561; **B** on [Figures 3 and 4](#); anomaly m61 in [Linford \*et al.\* 2015c](#), fig. 12), which the trench was positioned to investigate. Within the trench, ditch A varied considerably in width (1.0–2.4 m) and depth (0.2–0.5 m), becoming smaller to the south (downslope), likely due to differential truncation by ploughing. It generally had three fills, commencing with a substantial primary fill of weathered chalk from the ditch sides (and possibly from an associated bank, though no trace of this remained).

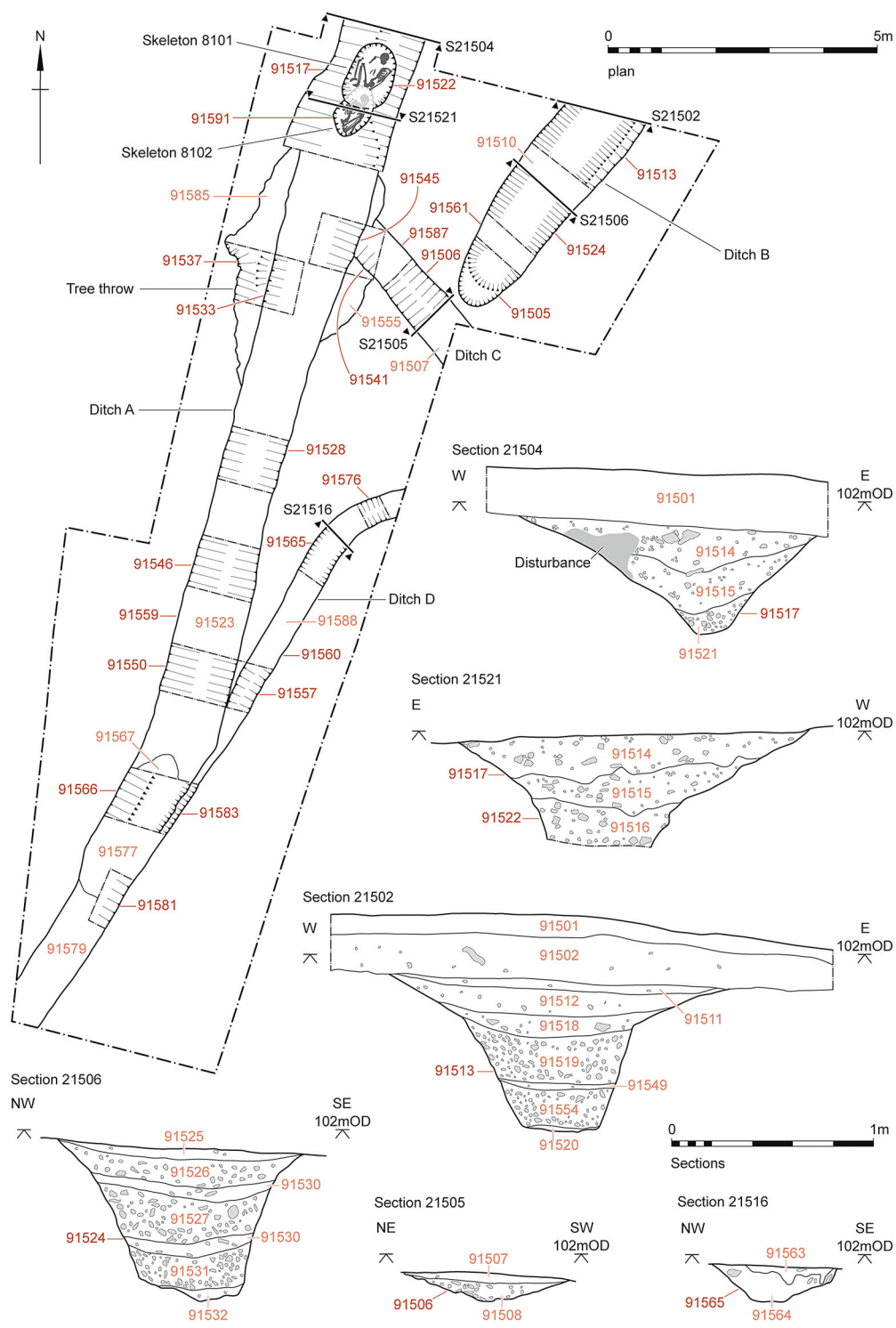
In the northern part of the trench two graves had been dug into the primary fill and the base of ditch A ([Figure 5](#)). The grave to the south was dug first; it contained an adult male skeleton (8102). The body lay on its back with the legs flexed to the left, with its head to the north and its arms flexed; the skull faced upwards and to the east. This grave was truncated



**Figure 3.** Location map of the trenches at West Amesbury Farm in relation to features revealed by remote sensing. See Linford *et al.* 2015c for detailed discussion of geophysical survey results; a minimally processed greyscale image of the caesium magnetometer data is shown in this figure, with high values plotted in white.

at its northern end by a larger grave, which contained another adult male, skeleton 8101. This individual also lay on his back with head to the north, but in this case the legs were flexed to the right and the skull faced south-west. The right arm was flexed, but the left was extended towards 8102. Osteoarchaeological examination of the position of the bones suggests that the differences in their postures as excavated (with the possible exception of the extended arm of 8101) reflect post-depositional movement of the bodies, both as the graves were filled and subsequently with the decay of the body and any wrappings, and with settlement of the grave fill. It is therefore possible that both burials were originally positioned in quite similar ways, with legs bound so that the knees were flexed in front of the supine body (Mays *et al.* *in review*). The two bodies were deposited in close succession shortly after the ditch was dug. This is supported not only by the second burial making reference to the first, but also by the radiocarbon results, which suggest that individual 8102 died in 1460–1370 (77% probability) (or 1355–1310 at 13% or 1495–1475 at 5%) *cal B.C.* and individual 8101 in 1450–1285 *cal B.C.* (95% probability) (Figure 6; Table 1), thus within the first half of the MBA.





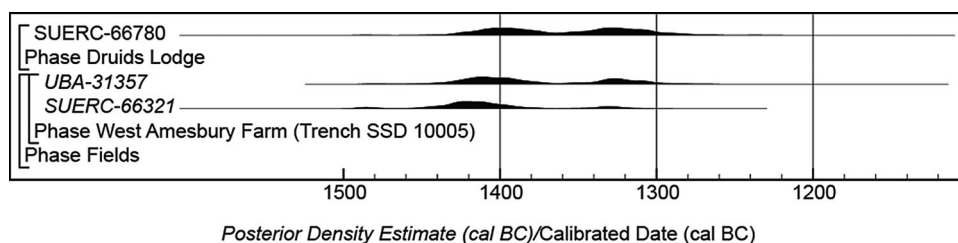
**Figure 4.** Archaeological features in Trench 5.



**Figure 5.** Burials 8101 and 8102 (composite figure derived from photogrammetry by Historic England's Geospatial Imaging Team [Jon Bedford], based on photographs taken on site during the exposure of each burial).

Comparison of the excavation results with the geophysical data revealed a GPR response closely matching the outline of the two grave cuts, and at a very similar depth. Similar GPR anomalies can be identified elsewhere along ditch A, but without further excavation caution should be exercised in suggesting these represent graves.

The part of ditch A excavated appears to have remained open for well over a millennium. The secondary fill of the ditch, covering the two graves, largely comprised natural chalk indicative of slow weathering; above this was an upper loamy fill which accumulated far more slowly, and contained a red deer metatarsal, too large to be intrusive, radiocarbon dated to the later Iron Age (185–45 *cal B.C.*, 95% probability; [Figure 6](#); [Table 1](#)). In addition,



**Figure 6.** Probability distribution of the dates from West Amesbury Farm and Druid's Lodge. The two adult inhumations in Ditch A at the West Amesbury Farm site are SUERC-66321 and UBA-31357; the perinate from Druids' Lodge is SUERC-66780. (The distributions from West Amesbury Farm are derived from the model defined in Supplementary Information 1; the result from Druid's Lodge is derived from simple radiocarbon calibration: Stuiver and Reimer 1993).

three small, abraded sherds of EBA pottery and 292 worked flints, about half of which were micro-debitage, were found in ditch A; apart from a little residual material, the lithics are dated no earlier than the MBA, and are present in primary as well as secondary fills. The quantity of flint suggests sustained knapping activity, while the presence of unworked burnt flint suggests the use of hearths in the vicinity. Although suggestive of settlement, it is also possible that this practice may relate to the funerary function of the ditch, just as barrows often provided a context for Bronze Age flint knapping (Darvill 2005, 65).

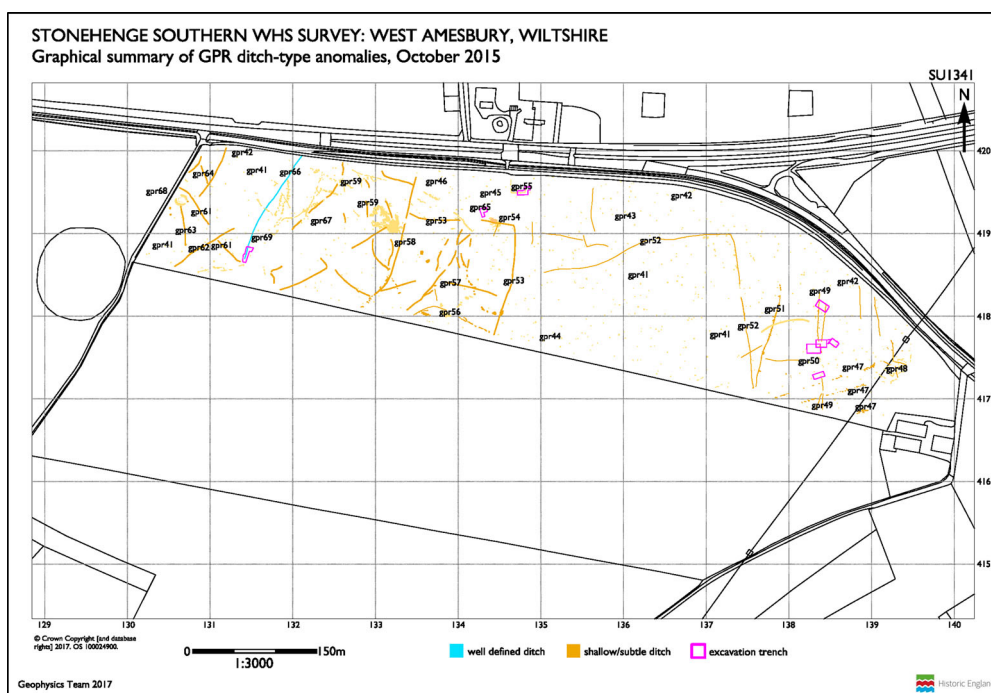
Ditch A is not the earliest feature in the trench, however. It cut across two smaller ditches, 91587 (C on Figure 4) and 91560 (D on Figure 4). These do not appear on the geophysical survey so it is unknown how far they continue beyond the trench or whether they intersect, but considerable time elapsed between the infilling of ditch C and the digging of ditch A, as demonstrated by a tree-throw that cut the terminal of the former and was cut by the latter. It is notable that this tree lay at the end of ditch C, while ditch A was cut straight through its remains, so it appears to have influenced the layout of both features. Ditch A also references ditch D, a slight change in direction at this point aligning it with the earlier feature.

Ditch C is also post-dated by another ditch, B, seemingly on a similar alignment to ditch D to the south but terminated just before intersecting ditch C. Geophysical survey suggests that ditch B was relatively short, terminating c. 10 m beyond the trench. Nevertheless, it was a large feature, with a more complex set of fills than the other ditches, short-term silting events alternating with episodes of deliberate backfilling with clean chalk (Figure 4). It produced 320 struck flints, nearly all characteristic of the MBA or Late Bronze Age (LBA). A 'step' in its southern terminus at the same depth as ditch D suggests that most of ditch B may be a deeper recut of a feature previously associated with ditch D, given their co-alignment.

The graves, the conjunction of ditches and the evidence for a lengthy duration of activity suggest this was a significant point in the landscape. Ditch A is part of a long curvilinear boundary shown by aerial photographs to extend from just west of the Avenue (to the north of the A303) across King Barrow Ridge and round Coneybury Hill (aligned on round barrow Amesbury 18) before terminating south of Luxenborough Plantation, where it is accompanied by a short stretch of parallel ditch and changes direction to partially enclose barrows Amesbury 19a and 19b (Figures 2 and 3).

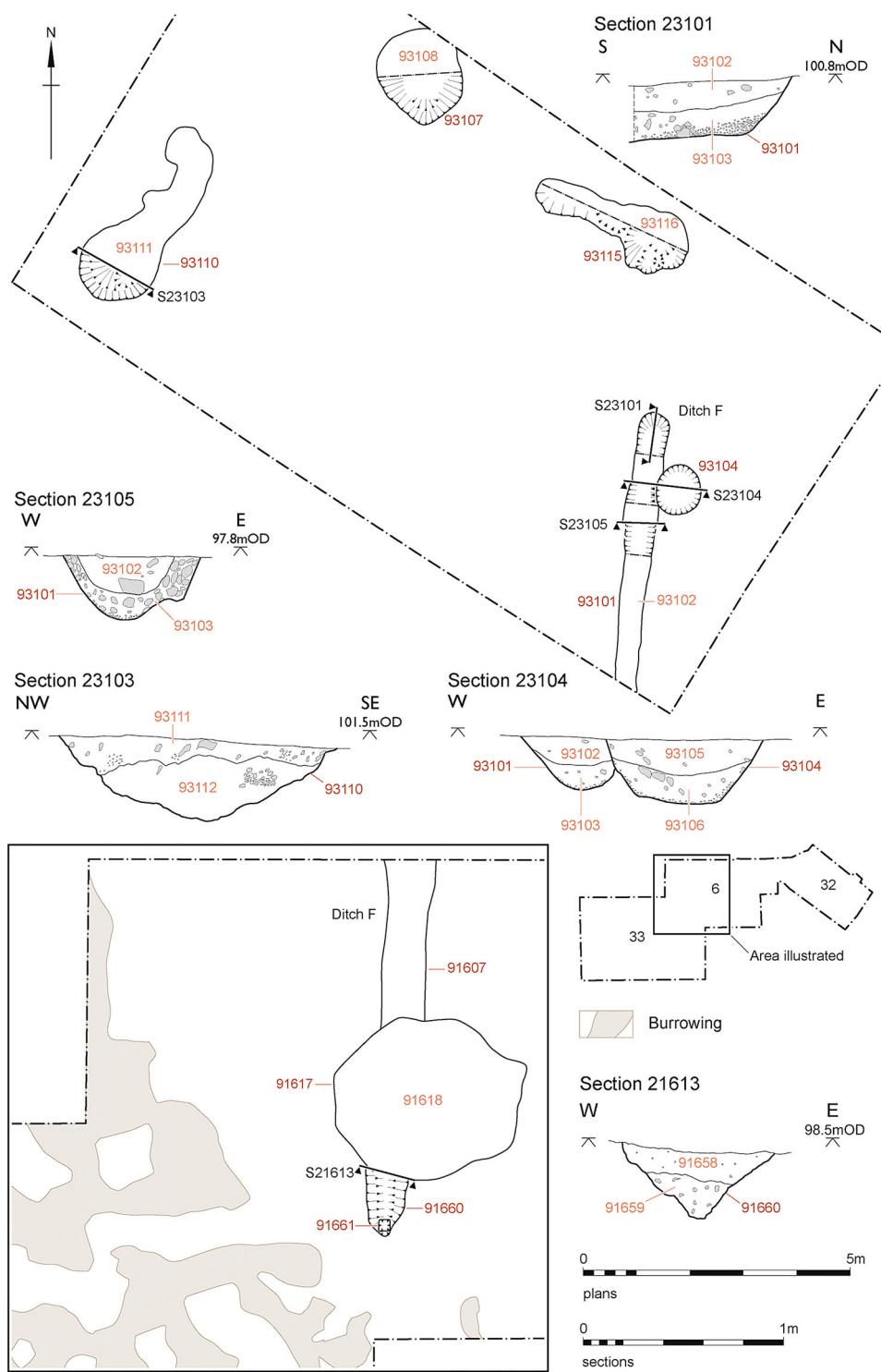
Aerial mapping has revealed various short, broadly perpendicular offshoots from the main boundary, predominantly on its southern and eastern sides. One of these (91202; E on Figure 3) was also sampled by excavation as part of the project. It proved to be a relatively small feature, with two fills containing probably residual sherds of Middle Neolithic Peterborough Ware and a small assemblage of worked flint, but also a large deposit of free-threshing wheat grains directly dated to the post-medieval period (see Supplementary Report – Stratigraphic narratives). The date of this offshoot therefore remains uncertain, though contamination of the archaeobotanical record is entirely plausible (Pelling *et al.* 2015). As with ditch A, ditch E had previously been investigated by Wessex Archaeology in the 1990s, although no dating evidence was recovered (Darvill 1995, 46).

If we accept the offshoots from ditch A as part of the Bronze Age system, they add to the evidence from Trench 5 that the major boundary was connected to an adjacent field or enclosure system. In the rest of the survey area at West Amesbury Farm, the results of GPR survey was interpreted as an extensive if somewhat fragmentary network of ditches (Figure 7; gpr48–64 in Linford *et al.* 2015c, 5 and fig. 13). Both terminals of one of these ditches (93101; F on Figures 7 and 8), which was also visible in the magnetometer data, were excavated at the east end of the field, in trenches 31 and 6. As excavated, the ditch was 0.6–0.8 m wide and 0.3 m deep, with evidence for a square post setting in the southern terminus. The ditch contained later prehistoric struck flint, mostly micro-debitage; it was cut by a tree-throw, and a pit which also contained worked flint of Bronze Age date (Figure 8).



**Figure 7.** The early field or enclosure system at West Amesbury.





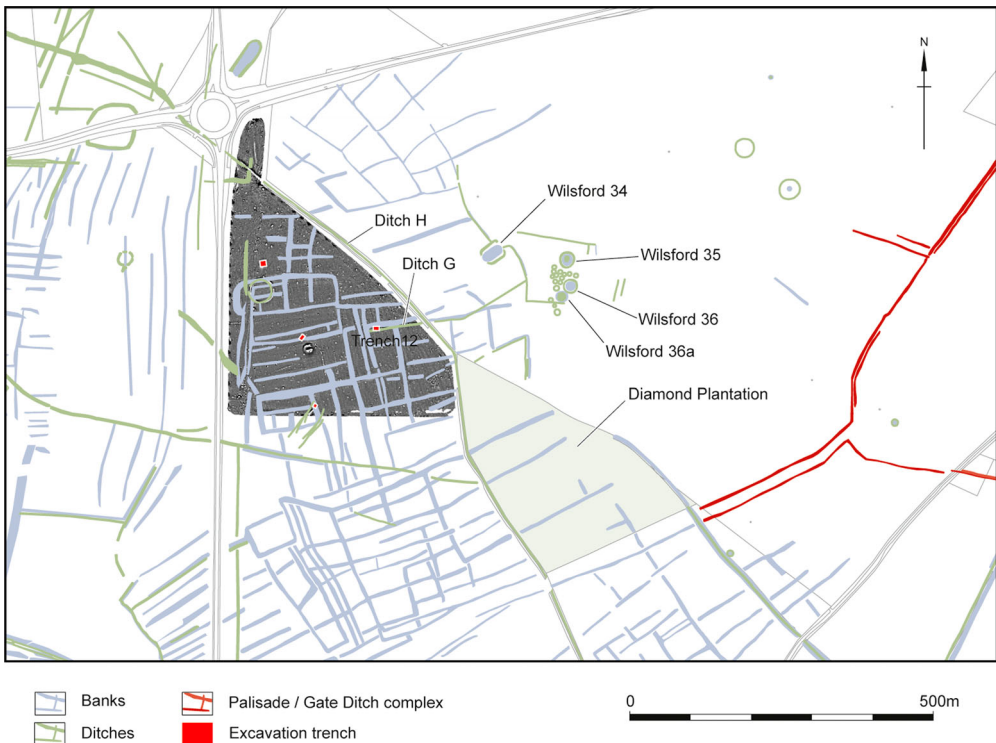
**Figure 8.** Archaeological features in (top) Trench 31 and (bottom) Trench 6.



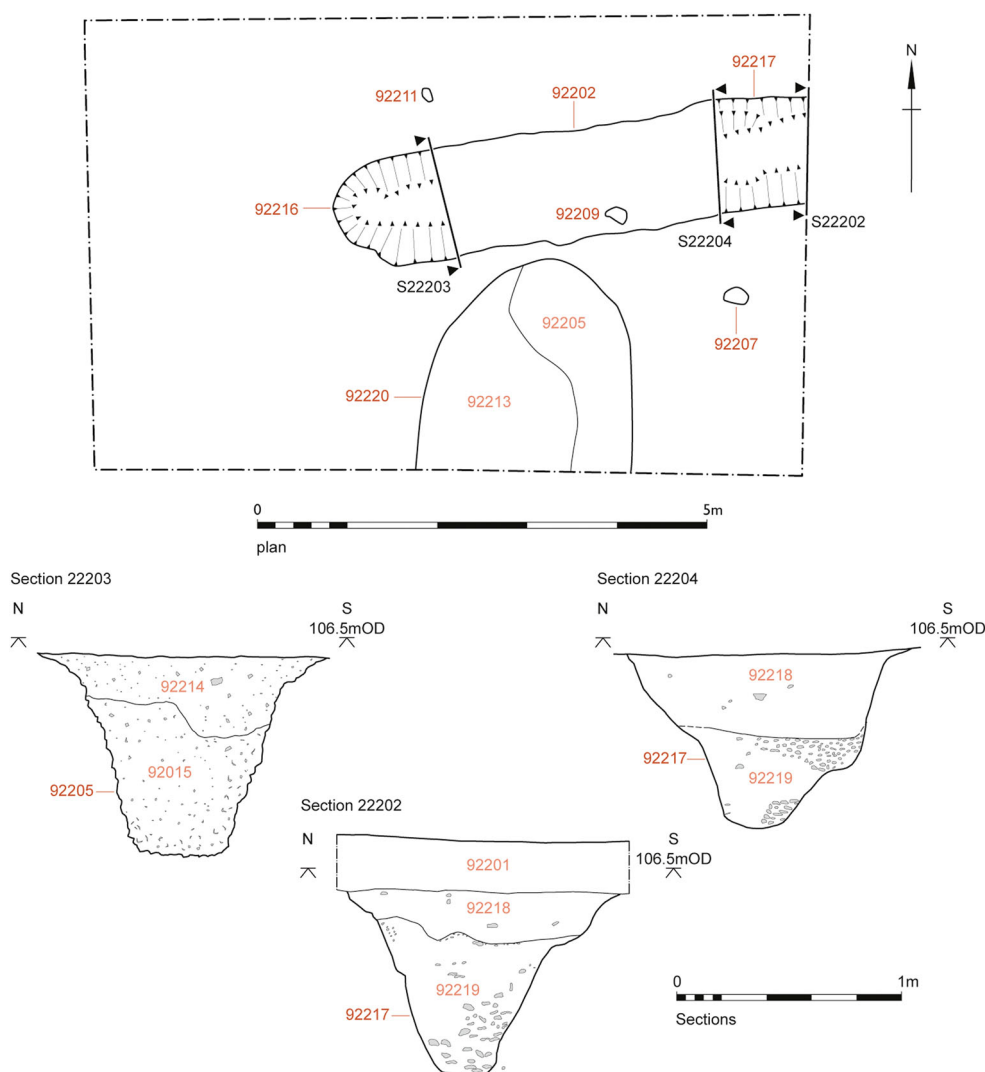
## Druid's Lodge

The discovery of the West Amesbury network of ditches casts some doubt on the contrast proposed by Pollard *et al.* (2017) between the Coneybury/King Barrow Ridge area and the western side of the WHS. The 2015 fieldwork, however, provided an opportunity to compare these areas directly, by investigating a triangular field 3 km to the west, to the south-east of the Winterbourne Stoke roundabout, part of the Druid's Lodge Estate (Figures 2 and 9).

Geophysical survey (Linford *et al.* 2015b) revealed a range of geophysical anomalies. Pertinent to the present discussion are features thought likely to relate to an extensive field system previously mapped from aerial photography and lidar, largely as a series of low earthwork banks (Figure 9). Although very likely to have Bronze Age origins (Bowden *et al.* 2012, 29–30), the field system is thought to have been intensively used and remodelled in the Iron Age and Roman periods; the widespread distribution of Roman pottery across this area is probably derived from manuring (Richards 1990, 25; Roberts *et al.* in review). Unfortunately, because of ongoing ploughing no earthworks remain visible on the surface of the field. Trench 12 therefore targeted an east–west ditch (G on Figures 9 and 10) visible on the geophysical survey (m42 & gpr33 in Linford *et al.* 2015b) and previously plotted from aerial photography, which was



**Figure 9.** Location map of the trenches at Druid's Lodge in relation to features revealed by remote sensing. See Linford *et al.* 2015b for detailed discussion of geophysical survey results; a minimally processed greyscale image of the caesium magnetometer data is shown in this figure, with high values plotted in white.



**Figure 10.** Archaeological features in trench 12.

respectively parallel and perpendicular to two of the field system banks, though no trace of either bank was visible in the trench.

Ditch G, which terminated in the trench, was 1.2 m wide and 0.8 m deep (Figure 10). Both excavated sections revealed sub-circular cuts (0.3 m in diameter) indicative of post settings in the base of the ditch. Since no post-pipes were visible it appears that the ditch had been infilled after removal of the posts. The ditch therefore seems to have contained a palisade, although in the excavated area the posts appear to have been too sparsely distributed to form a barrier to movement. They would have been visually imposing, however, with an above-ground height of approximately 3–4 m, assuming a standard 1:3 or 1:4 ratio between the depth of the post in the ground and its height above ground (Green and Rollo-Smith 1984, 281–3; Gibson 2000, 106–7).

The remains of a perinatal infant lay in the primary fill of the ditch. Unlike the adult burials at West Amesbury, this body had not been deposited within a separate cut,

suggesting it was part of a deliberate infilling of the ditch (which comprised brown chalky material deposit in contrast to the clean weathered chalk at West Amesbury Farm). The ditch fills also produced a relatively fresh sherd from a decorated vessel of probable MBA (Deverel-Rimbury) type, a small assemblage of animal bone, and residual Neolithic worked flint.

The perinate remains have been radiocarbon dated to 1440–1270 cal B.C. (Figure 6; Table 1), a determination statistically consistent with those for the West Amesbury Farm burials ( $T' = 0.9$ ;  $T'(5\%) = 6.0$ ;  $\nu = 2$ ; Ward and Wilson 1978), and therefore all three individuals could have died within a very short period of time. The West Amesbury burials are broadly contemporary with the cutting of the ditch in which they were found, whereas the perinate provides both a *terminus ante quem* for the digging of the palisade ditch and a date for the infilling of the palisade ditch once the posts had been removed.

Some 75 m east of trench 12 the palisade ditch and the field system were cut by a major linear earthwork, or ‘Wessex linear’, with a ditch that measured up to 4.6 m wide and 1.5 m deep (H on Figure 9; a-a in Bowden *et al.* 2012; Wessex Archaeology 2002). Ditch G continued beyond this on the same alignment for about 50 m before turning north-east for 120 m and then sharply north towards long barrow Wilsford 34, where it terminated. A further ditch segment extended NNW from the long barrow for another c. 100 m before terminating within another part of the field system (Figure 9). The function of these ditches is unclear, as is whether or not they held a palisade in the same manner as the south-western end of the system.

The presence of a palisade in ditch G immediately suggests a connection with the ‘Palisade Ditch’/‘Gate Ditch’ system to the east and north-east (Figure 2; Bowden *et al.* 2015, 72–5; Pollard *et al.* 2017, 290–5). The Palisade Ditch also had its timbers removed before it was replaced by a recut ditch and bank, while at different points in the MBA infant burials and a sheep burial were inserted into the silted-up ditch. Radiocarbon dating of one of three infants found in this feature to the west of Stonehenge produced a date of 1380–1120 cal B.C. ( $2\sigma$ , SUERC-32160,  $2995 \pm 30$ BP; Pollard *et al.* 2017, 292), perhaps a little later than that from Druid’s Lodge. The lengthy sequence suggested to Pollard *et al.* (2017), however, that the original palisade may have been constructed as early as the end of the EBA.

If similarly early in date, the line of ditch G may also have played a role in the setting out of the largely embanked field system with which it is aligned. As at West Amesbury, a lengthy sequence is attested, as a ‘stockade trench’, that appears to be part of a related field system, cut the infilled linear earthwork H near the Winterbourne Stoke roundabout (Wessex Archaeology 2014). Unfortunately, there is no direct dating evidence for either feature, though by analogy with similar features elsewhere, and its relationship to ditch G, it seems likely that linear earthwork H dates to the LBA (Bowden *et al.* 2015, 73–5).

## Discussion

### *Burials in the landscape*

We have shown that two adult males were interred in a recently cut ditch at West Amesbury Farm, which succeeded (or incorporated) an earlier, less substantial system of fields or enclosures. At approximately the same time, a former palisade ditch around 3 km to the

west, that may also have formed part of a field system, was being infilled with material that included a human perinate. While the former are at present the only Bronze Age adult inhumations known from boundary ditches in the WHS (an Early Iron Age burial was recovered from the terminal of the Palisade Ditch: Cleal *et al.* 1995, 155–60), the finds from the Palisade Ditch and Druid's Lodge suggest that in the Stonehenge landscape it may not have been particularly unusual to place the remains of infants in boundary features, perhaps reflecting their status as a liminal group, less than full members of society. Indeed, it is possible that older individuals buried away from barrows and cemeteries in the MBA had similarly low status (Lambrick with Robinson 2009, 326): the 16–18-year-old female with a facial trauma found 'thrown' face down in a ditch terminus at Horse Down near Warminster, and dated to 1530–1400 cal B.C. ( $2\sigma$ ; Beta-167360; 3190  $\pm$  40 BP) may provide an example from Wessex (Ellis and Powell 2008, 184–6).

The two adult burials at West Amesbury are harder to explain in terms of social disadvantage. They were old enough to have established social identities and they were buried with apparent care shortly after the creation of a large boundary ditch. Bioarchaeological and osteoarchaeological evidence indicates that they are very likely to have had considerably different origins, physique and stature, although they had somewhat similar diet; they may have lived unusually mobile lifestyles for the period, based on tibiae morphometrics, albeit this mobility appears to have been limited to the Wessex chalk (Mays *et al.* *in review*). It is possible that both were buried in some form of wrapping to maintain their crouched positions, and this is supported by the nature of the grave fills, which contained many voids, perhaps from the decay of organics. On Porton Down, c. 8 km to the south-east, two near-contemporary burials to those at West Amesbury were also apparently tightly bound in similar positions, albeit one individual was face down (Wessex Archaeology 2015; Andrews and Thompson 2016). Both were associated with MBA ditches, and were c. 1 km apart. In this context it is notable that a small number of tightly bound or possibly even mummified bodies of MBA to LBA date are known from the Thames Valley and Cranborne Chase (Lambrick with Robinson 2009, 310–11; Smith *et al.* 2016). If the West Amesbury bodies had been curated in some way, as the evidence for wrappings might suggest, then the date of their burial could be somewhat later than the dates of their deaths, as given above.

If we consider the West Amesbury burials as potentially of higher status, then there may be significance in the choice of inhumation at a time when cremation was by far the dominant burial rite. Brück (2009) and Appleby (2013) have considered the transition from inhumation to cremation during the EBA, respectively from the standpoint of gender identities and *chaîne opératoires*. For Brück the practice of cremation helped underpin the transition to the MBA landscape; a move away from expressing social stratification in the mortuary sphere was accompanied by the increasing significance of the domestic domain (Brück 2009, 18). For Appleby (2013) the shift to cremation meant that the focus of mortuary practice was the funeral rather than the burial, i.e. the temporality of engagement with the dead changed and, accordingly, the construction of new barrows declined. At West Amesbury Farm, therefore, we need to consider why forms of engagement with dead bodies that referenced EBA practices were maintained.

These inhumations are not the only unusual form of MBA burial in the WHS, however. At Druid's Lodge, offshoots from ditch G partially enclose round barrows (Wilsford 35–36) which, probably not coincidentally, are accompanied by a cluster of small ring-ditches that

may represent an unusual form of MBA cremation cemetery akin to sites in Essex (Brown 1999). Similar MBA cemeteries may be present in the Stonehenge landscape to the north-east (Amesbury 107–111) and south-east (Wilsford 57–57f). It is notable that all these locations lie between the field systems and the ‘sacred zone’ of Normanton Down, as do the West Amesbury inhumations, which lie at ditch A’s closest point to Stonehenge (Figures 2 and 11), where the monument is invisible from within the ditch, but visible from its edge. They also lie in a significant EBA funerary landscape, between Amesbury 20–22, Amesbury 39 and the New King Barrows. It is even possible that they were directly adjacent to a group of three ring-ditches mapped from aerial photography (Barber and



**Figure 11.** Trench 5 with Stonehenge in the background.



Small *in prep*) (Figure 3), although these did not appear in the recent geophysical survey (Linford *et al.* 2015c, 6).

The continued role of EBA round barrows in MBA landscapes is well attested in many regions of England (e.g. Cooper 2016) and more locally (Gibson 2013), as is the potential diversity of burial practice at this time; at Stonehenge, however, where the scale of barrow building was so great, the question is how and why particular monuments and locations were selected for reference and re-use in the MBA. The focus appears to be on the boundary between field systems and open areas; it was the monuments in this liminal zone that were appropriated for embellishment in the MBA. In the west it is not just the EBA round barrows Wilsford 35–36 that are respected in this way, but also a Neolithic long barrow (Wilsford 34) which contained a number of secondary (Bronze Age?) interments in its mound (Cunnington 1914, 405). In the east, selected barrows were also partially enclosed while the burials at West Amesbury Farm mark a liminal point between the fields and enclosures towards the Avon and the open areas of Stonehenge Down and Normanton Down. It may also be significant that they are located south-east of Stonehenge, as it is this quadrant of the monument that seems to have been elaborated in the later EBA and MBA (Pollard *et al.* 2017, 288–90).

### **Fields and boundaries**

The discoveries at West Amesbury suggest there was more MBA activity on the eastern side of the WHS than has previously been recognised, and contradict the idea that early field systems are restricted to the west of Stonehenge (which also overlooks the probable prehistoric field system to the east of the Avon on Amesbury Down). However, they reinforce the impression that MBA fields maintained a respectful distance from Stonehenge and Normanton Down. The earliest land divisions revealed during the project appear to be fields or enclosures defined by slight, shallow ditches (Figure 7). These were found right across the West Amesbury Farm site but were only partially visible to remote sensing techniques: GPR survey showed more of them than either aerial photography or magnetometer survey, but trench 5 also revealed features which were not picked up by any of these techniques. Their irregular, curvilinear morphology contrasts strongly with co-axial field systems elsewhere in the region (McOmish *et al.* 2002), but the shallowness of the ditches precludes their functioning as direct barriers to animals, despite the occasional presence of posts, although they may have been elaborated with hedges. That they were settlement enclosures also seems unlikely on the basis of their morphology and limited evidence of occupation. Archaeobotanical remains were very scarce in all of these features, despite intensive sampling (the few cereal grains are probably intrusive, like those in ditch E). It is therefore impossible to assess the nature of land use in the areas enclosed by the ditches on the present evidence.

The West Amesbury fields also differ in form from those at Druid's Lodge, and elsewhere on Salisbury Plain, where the majority of boundaries survive (or did until recently) as earthwork banks without ditches. However, this may largely be a function of the different histories of later land use in the two areas; if such banks were once present at West Amesbury they would not have survived incorporation into the medieval open fields of Amesbury (Baggs *et al.* 1995), the western limits of which lay approximately on the line of ditch A, indicative of the longevity of the arable/downland boundary in this area.

While these features have been only probably dated as Bronze Age in trenches 31 and 6, in trench 5 there was time enough between the infilling of ditch **D** and the cutting of ditch **A** for a substantial tree to grow and fall, so they could, like the Palisade Ditch, have originated as early as the EBA/MBA transition. The recognition that natural features in the landscape formed part of this system of boundaries is an important counterpoint to more abstract ideas of symbolic boundaries and sacred zones. As well as the tree in trench 5, the southern end of ditch **F** terminates adjacent to the northern edge of a large area of confused response on the geophysical survey that was revealed through excavation to be a large badger sett measuring c. 35 × 65 m. Two other geophysical anomalies (which appear to form part of the field/enclosure system) terminate at the southern and western edges of the sett (Linford *et al.* 2015c, figs. 12 and 13). Radiocarbon dating of a fox skeleton found within the sett provides a *terminus ante quem* for its digging of 3330–2900 cal B.C. (95% probability; UBA-31621), corroborated by finds of Peterborough Ware in other parts of the sett. The sett was clearly a long-lived feature, with parts cutting Middle Neolithic anthropogenic features and others cut by them. Badger setts can be occupied for centuries (Roper 1992), so it is not impossible that this one was still visible in some form in the Bronze Age. A sett of such size and duration was probably associated with an area of woodland (Roper 1992, 46; Skinner *et al.* 1991) or heavily disturbed ground, however, so as a visible landscape feature incorporated into the Bronze Age enclosure system, it might provide an example of the ‘patchy’ woodland evidenced in the palaeoenvironmental record of the Late Neolithic surviving into the MBA, when there is evidence for a predominantly open grassland environment (Hazell and Allen 2013), which is supported by analysis of the mollusca from ditch **A**.

## Conclusion

The research described in this paper has shown how extensive aerial and geophysical survey followed by targeted excavation and analysis can illuminate landscape structuration. A large-scale system of enclosures or fields on the slopes of King Barrow Ridge appears to date to the earlier part of the MBA, and incorporates both natural features and human remains, while a palisade ditch west of Normanton Down, also containing human remains, links fields in this area to earlier barrows. More excavation is required to fully understand the forms, functions and chronology of the enclosures and boundaries in both areas. But already, work has provided evidence of duration (from stratigraphic relationships and fills) and monumentality (the association with human remains and large timber posts). The ditch systems described above, in their response to local landscape features, are far from the ‘terrain-oblivious’ layout seen in some early ‘co-axial’ systems (Fleming 1987, 190; and elsewhere on Salisbury Plain (McOmish *et al.* 2002, 51–6). They also vary significantly in form and scale, from small, rather slight features to substantial ditches and highly visible, if permeable, palisades; such diversity is suggestive of piecemeal development rather than wholesale landscape planning.

The physical landscape was also a conceptual one, structured by Stonehenge and its multiplicity of satellite barrows. But rather than a case of ‘too many ancestors’ (cf. Whitley 2002) very specific choices were made in relation to the incorporation of particular monuments and deposits, especially those that reinforced the boundaries of Normanton Down. While some elements of the MBA landscape were over-ridden, the longevity of others is notable. Ditch **A** at West Amesbury lasted in some form until the Late Iron Age or beyond, remaining

an enduring monument to its builders long after their time had in turn passed into myth. Looked at in this way, the idea of a simple dichotomy between ancestral monuments and functional fields is hard to sustain; the new boundaries and enclosures of the MBA were not just divisions of space, but had attributes of monuments alongside their quotidian purpose. Memories and identities were evoked and maintained by movement, gathering and performance within the fields. Such activity formalises relationships between people and landscape just as much as burials and other ritual acts, as studies of later prehistoric landscapes increasingly recognise (e.g. Giles 2012; Chadwick 2013).

The Stonehenge landscape can sometimes be reduced to an arrangement of monuments with little in between, but the MBA developments make visible a living, changing landscape, all of which was significant to its inhabitants. As Chadwick puts it, the ‘inhabited landscape was a complex mosaic of remembered places, pragmatically re-used features, and those forgotten altogether’ (2013, 307). Elucidating that mosaic requires a multi-scalar approach that links the large-scale patterns revealed by aerial survey to the intimate qualities of particular features and deposits.

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## References

- Andrews, P. and Thompson, S. 2016. An early Beaker Funerary monument at Porton Down, Wiltshire. *Wiltshire Archaeological and Natural History Magazine* 109, 38–82.
- Appleby, J. 2013. Temporality and the transition to cremation in the late third millennium to mid second millennium BC in Britain. *Cambridge Archaeological Journal* 23(1), 83–97.
- Baggs, A., Freeman, J. and Stevenson, J. 1995. Parishes: Amesbury. in *A History of the County of Wiltshire: Volume 15, Amesbury Hundred, Branch and Dole Hundred*, ed. D. Crowley, 13–55.
- Barber, M. and Small, F. [In preparation](#). *Stonehenge Southern WHS Survey: the Stonehenge landscape – airborne remote sensing*, Historic England Research Report 24–2017.
- Bowden, M. 2016. *Stonehenge Southern WHS Project. Vespasian's Camp, Amesbury, Wiltshire: analytical earthwork survey*, Historic England Research Report 49–2016.
- Bowden, M., Field, D. and Soutar, S. 2012. *Stonehenge World Heritage Site Landscape Project. Lake Barrows, The Diamond and Normanton Gorse: archaeological survey report*, English Heritage Research Report 29–2012.
- Bowden, M., Soutar, S., Field, D. and Barber, M. 2015. *The Stonehenge Landscape: analysing the Stonehenge World Heritage Site*. Historic England.
- Brown, N. 1999. *The Archaeology of Ardleigh, Essex: Excavations 1955–1980*, East Anglian Archaeology 90.
- Brück, J. 2009. Women, death and social change in the British Bronze Age. *Norwegian Archaeological Review* 42(1), 1–23.
- Chadwick, A. 2013. ‘Memories can’t wait’ – creating histories, materialising memories and making myths in Iron Age and Romano-British landscapes. In *Memory, Myth and Long-Term Landscape Inhabitation*, eds. A. Chadwick and C. Gibson, Oxbow, 291–314.
- Cleal, R., Walker, K. and Montague, R. 1995. *Stonehenge in its Landscape: twentieth-century excavations*, English Heritage Archaeological Report 10.
- Cooper, A. 2016. ‘Held in place’: round barrows in the later Bronze Age of lowland Britain. *Proceedings of the Prehistoric Society* 82, 291–322.
- Cunnington, M. 1914. List of the long barrows of Wiltshire. *Wiltshire Archaeological and Natural History Magazine* 38, 379–414.
- Darvill, T. (ed.) 1995. *Stonehenge Visitor Centre, Wiltshire. Countess Road and King Barrow Ridge Site: field evaluations*, unpublished report for English Heritage.
- Darvill, T. (ed.) 2005. *Stonehenge World Heritage Site: an archaeological research framework*. English Heritage and Bournemouth University.
- Darvill, T. 2016. Houses of the Holy: Architecture and meaning in the structure of Stonehenge, Wiltshire, UK. *Time and Mind* 9, 89–121.
- Ellis, C. and Powell, A. 2008. *An Iron Age Settlement outside Battlesbury Hillfort, Warminster and Sites along the Southern Range Road*, Wessex Archaeology Report 22.
- Fleming, A. 1987. Coaxial Field Systems: some questions of time and space. *Antiquity* 61, 188–202.
- Gibson, A. 2000. *Stonehenge and Timber Circles*. Tempus.
- Gibson, C. 2013. Out of time but not out of place. Tempo, rhythm and dynamics of inhabitation in southern England. In *Memory, Myth and Long-Term Landscape Inhabitation*, eds. A. Chadwick and C. Gibson, Oxbow, 99–123.
- Giles, M. 2012. *A Forged Glamour: landscape, identity and material culture in the Iron Age*. Oxbow.
- Green, C. and Rollo-Smith, S. 1984. The excavation of Eighteen Round Barrows Near Shrewton, Wiltshire. *Proceedings of the Prehistoric Society* 50, 255–318.
- Hazell, Z. and Allen, M. 2013. Vegetation History. In *Stonehenge World Heritage Site Synthesis: pre-historic landscape, environment and economy*, eds. M. Canti, G. Campbell and S. Greaney, English Heritage Research Report 45–2013, 15–36.
- Lambrick, G. with Robinson, M. 2009. *The Thames Through Time: the Thames valley in late prehistory 1500 BC–AD 50*. Oxford Archaeology.
- Linford N., Linford P. and Payne, A. 2015a. *Stonehenge Southern WHS Survey. Diamonds Field, Boreland Farm, Wiltshire: report on geophysical surveys, August 2015*, Historic England Research Report 93–2015.

- Linford N., Linford P. and Payne, A. [2015b](#). *Stonehenge Southern WHS Survey. Diamonds Field, Druid's Lodge, Wiltshire: report on geophysical surveys, October 2015*, Historic England Research Report 94–2015.
- Linford N., Linford P. and Payne, A. [2015c](#). *Stonehenge Southern WHS Survey. West Amesbury, Wiltshire: report on geophysical surveys, October 2015*, Historic England Research Report 95–2015.
- Linford N., Linford P. and Payne, A. [2015d](#). *Stonehenge Southern WHS Survey. Normanton Down, Wiltshire: report on geophysical surveys, October and November 2015*, Historic England Research Report 96–2015.
- Mays, S, Roberts, D, Marshall, P, Pike, A, van Heekeren, V, Dunbar, E., Reimer, P., Linscott, B., Radini, A., Lowe, A., Dowle, A., and Speller, C. [In review](#). Lives before and after Stonehenge: an osteobiographical study of four prehistoric burials recently excavated from the Stonehenge World Heritage Site.
- McOmish, D., Field, D. and Brown, G. [2002](#). *The Field Archaeology of the Salisbury Plain Training Area*. English Heritage.
- Needham, S., Lawson, A. and Woodward, A. [2010](#). “A noble group of barrows”: Bush Barrow and the Normanton Down Early Bronze Age cemetery two centuries on. *Antiquaries Journal* 90, 1–39.
- Pelling, R., Campbell, G., Carruthers, W., Hunter, K. and Marshall, P. [2015](#). Exploring Contamination (Intrusion and Residuality) in the Srchaeobotanical Record: case studies from central and southern England. *Vegetation History and Archaeobotany* 24, 85–99.
- Pollard, J., Garwood, P., Parker Pearson, M., Richards, C., Thomas, J. and Welham, K. [2017](#). Remembered and Imagined Belongings: Stonehenge in the age of first metals. In *The Neolithic of Europe: papers in honour of Alasdair Whittle*, eds. P. Bickle, V. Cummings, D. Hofmann and J. Pollard, Oxbow, 279–297.
- Richards, J. [1990](#). *The Stonehenge Environs Project*, English Heritage Archaeological Report 16.
- Roberts, D., Valdez-Tullett, A., Marshall, P., Last, J., Barclay, A., Bishop, B., Dunbar, E., Forward, A., Law, M., López-Dóriga, I., Manning, A., Pelling, R., Powell, A., Reimer, P., Russell, M., Soutar, S., Vallender, J. and Worley, F. [In review](#). Recent investigations at two long barrows and reflections on their context in the Stonehenge World Heritage Site.
- Roper, T. [1992](#). Badger (*Meles meles*) setts – architecture, internal environment and function. *Mammal Review* 22(1), 43–53.
- Skinner, C., Skinner, P. and Harris, S. [1991](#). An Analysis of Some Factors Affecting the Current Distribution of Badger (*Meles meles*) setts in Essex. *Mammal Review* 21(1), 51–65.
- Smith, M.J., Allen, M.J., Delbarre, G., Booth, T., Cheetham, P., Bailey, L., O'Malley, F., Parker Pearson, M. and Green, M. [2016](#). Holding on to the Past: Southern British evidence for mummification and retention of the dead in the Chalcolithic and Bronze Age. *Journal of Archaeological Science: Reports* 10, 744–56.
- Soil Survey of England and Wales. 1983. *Soils of England and Wales: Sheet 6 - South East England*. Lawes Agricultural Trust.
- Stuiver, M. and Reimer, P.J. [1993](#). Extended <sup>14</sup>C data base and revised CALIB 3.0 <sup>14</sup>C calibration program. *Radiocarbon* 35, 215–230.
- Ward, G.K. and Wilson, S.R. [1978](#). Procedures for Comparing and Combining Radiocarbon Age Determination: a critique. *Archaeometry* 20(1), 19–31.
- Wessex Archaeology. 1992. *A303 Amesbury–Berwick Down: pink and grey routes. Fieldwalking survey*, Wessex Archaeology report W540.
- Wessex Archaeology. [2002](#). *A303 Stonehenge Archaeological Surveys: archaeological evaluation report. Areas L and O*, Wessex Archaeology report (ref. no. 50412.1a).
- Wessex Archaeology. [2014](#). *Stonehenge Environmental Improvements Project, Longbarrow Crossroads, Winterbourne Stoke, Wiltshire*. Wessex Archaeology.
- Wessex Archaeology. [2015](#). *Zone 2 EAC and Zone 3 Enclosed Area, Porton Down, Wiltshire. Archaeological evaluation and watching brief report*. Wessex Archaeology report (ref. no. 108953.02). Salisbury.
- Whitley, J. [2002](#). Too many ancestors. *Antiquity* 76 (291), 119–126.
- Yates, D. [2007](#). *Land, Power and Prestige: Bronze Age field systems in southern England*, Oxbow.